

**ABSTRACT**

A pixel circuit includes a silicon substrate having a photodiode that converts light intensity into a voltage signal and two metal layers disposed on the substrate having a pixel control circuit. The first metal layer includes a row trace and a reset trace and the second metal layer includes a column trace and a voltage supply trace. The row trace carries a signal that activates a switch for coupling the photodiode to the column trace during a readout phase and clears the voltage at the photodiode during a reset phase. The column trace interfaces with a signal capture circuit in a CMOS array of pixels for capturing a digital image that corresponds to each voltage level at each photodiode.